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**STATE BOARD OF EQUALIZATION**

September 5, 1962

Gentlemen:

Thank you for your letter of August 27, 1962.

It is our understanding that "X" water district has a well which produces hard water, containing calcium and magnesium ions in the concentration of approximately 70 parts per million and 30 parts per million, respectively.

In order to soften the water, it is necessary to remove much of the calcium and magnesium ions. This is accomplished by an ion exchange process, whereby the water is passed through tanks containing a synthetic granular zeolite resin consisting of a sodium salt. As the hard water passes through the resin, the calcium and magnesium ions in the water are exchanged with the sodium and the sodium zeolite is gradually changed into calcium and magnesium zeolite.

When the sodium in the zeolite is exhausted, it is necessary to regenerate the zeolite. This is accomplished by passing a concentrated solution of sodium chloride through the zeolite. A reverse action takes place in which sodium ions from the salt solution combine with the zeolite. The calcium and magnesium ions in the zeolite go into solution and are flushed out with the excess sodium chloride solution. The zeolite, regenerated with sodium, is then ready for softening further quantities of water. It is our understanding that this process is repeated indefinitely.

On the basis of the foregoing, it is our opinion that the sodium chloride which you purchase for regenerating the zeolite is purchased for the purpose of incorporation of its sodium ions in the water which you sell. Therefore, it is proper for you to purchase the sodium chloride for such purpose ex tax for resale.

Very truly yours,

George A. Trigueros  
Associate Tax Counsel

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